Remarks

The Rejection Over Young, Sr. et al.

The Office rejects Claims 1-11 and 17 under 35 U.S.C. 102(b) as being anticipated by Young, Sr. et al. (USP 5,516,585). The Office suggests that Young, Sr. et al. teach polymer blends comprising a super absorbent material and a thermoplastic resin and the use of such blends to form molded articles such as a web. The Office further suggests that as the blends are the same, the properties of the blends should also be the same.

Applicant respectfully disagrees with the Office's characterization of Young, Sr. et al. The '585 patent focuses upon "discontinuous fibers with a binder material to which super absorbent particulate materials are adhered. The binder may be of a heat fusible material that is applied as a liquid to fibers entrained in a gaseous medium. The particulate super absorbent material is adhered to the fibers by the binder material as the binder material dries and without heat fusing the binder to adhere these particles". See column 1, lines 9-11. Young, Sr. et al. seek "an improved fiber product composed of fibers with a binder material and super absorbent particles adhered to fibers by the binder material". See column 4, lines 28-30. Young, Sr. et al. teach that the binder material and the super absorbent particles are applied sequentially rather than as a blend. See column 4, line 52 through column 5, line 13, especially column 4, lines 52-63 and column 5, lines 10-13. Young, Sr. et al. also teach the use of liquid binders, such as those applied as aqueous emulsions or solutions or nonaqueous solutions. See column 7, lines 23-25 and 35-37. See also column 7, lines 48-53 for a discussion of "latexes" and "solutions". Young, Sr. expressly require that the super absorbent particles not be coated with the binder as that allegedly interferes with their optimum liquid absorption. See column 8, lines 63-65. In Example 1, Young, Sr. et al. use an ethylene/acrylic acid copolymer solution (20% solids) as a binder. See column 15, lines 54-58. Example 1 also includes a step of depositing super absorbent particles onto damp fluff (cellulose fibers sprayed with the ethylene/acrylic acid copolymer solution). See column 16, lines 2-3.

Applicant finds nothing in the foregoing extracts from Young, Sr. et al. or in the entire '585 patent that supports an anticipation rejection. A single difference negates an anticipation rejection. Applicant respectfully submits that pending claims require a composition that is both "extrudable" and in the form of "a polymer blend". The compositions taught by Young, Sr. et al. are neither extrudable nor blends. Skilled artisans understand that a blend differs from a particulate material that has no more than a portion of its exterior surface in contact with an aliquot of a partially dried liquid material. A blend is an intimate admixture of, in the case of the claimed invention, a super absorbent polymer and a thermoplastic resin. Skilled artisans also understand that in order for such a blend to be

extrudable, the super absorbent material(s), typically particulate material(s), must be dispersed in, and thoroughly coated with, the thermoplastic resin(s). In other words, the extrudable composition of the present claimed invention is a matrix of thermoplastic resin having dispersed therein one or more super absorbent polymer. This directly contravenes the Young, Sr. et al. requirement that super absorbent materials not be coated with a binder material, in this case a thermoplastic resin. Applicant respectfully submits that the foregoing differences preclude a finding that Young, Sr. et al. anticipates the claimed invention.

Applicant also respectfully suggests that the teachings of Young, Sr. et al. fail to support even an allegation of prima facie obviousness. Young, Sr. et al. provide no teaching, suggestion or motivation to guide a skilled artisan to disregard the clear mandate for a sequential process that ensures that at least some of each super absorbent particle have no binder material applied thereto in order to optimize liquid absorption by the particles. Similarly, Young, Sr. et al. fail to equip the skilled artisan to seek an extrudable composition that directly works against that mandate.

Applicant respectfully asks the Office to withdraw the rejection over Young, Sr. et al. as the reference does not support an anticipation rejection or establish prima facie obviousness.

The Rejection Over Tanaka et al.

The Office rejects Claims 1-7, 10 and 17 under 35 U.S.C. 102(b) as being anticipated by Tanaka et al. (USP 4,966,809). The Office characterizes Tanaka et al. as teaching a blend of a polymeric water absorber and a thermoplastic polymer as well as converting the blend to various objects such as fibers and articles. As with Young, Sr. et al., the Office proposes that as the blends are the same as those claimed in the present Applications, the properties of such blends should be the same as those claimed.

Tanaka et al. disclose a tape-shaped laminate, "a split yarn obtained by splitting said tape-shaped laminate or a composite fibrous body having said laminate structure, and a powdery polymeric water absorber fusion-bonded to the surface thereof". See column 1, lines 6-16. Tanaka et al. teach that the laminate structure has at least one layer of a high melting point synthetic resin and at least one layer of a low melting point synthetic resin in which at least a part of the low melting point resin is exposed to the surface. Tanaka et al. further teach that a powdery polymeric water absorber is fusion-bonded to the outer surface of the low melting point resin. See column 1, line 66 through column 2, line 9. Tanaka et al. still further teach "placing a powdery polymeric water absorber in contact with the heated tape-shaped laminate, split yarn or composite fibrous body, whereby the polymeric water absorber is fusion bonded to the outer surface of the low-melting-point synthetic resin layer exposed to the surface". See column 2, lines 19-27, especially lines 22-27. At column

4, lines 13-17, Tanaka et al. focus upon keeping the average particle size of the polymeric water absorber small so that the exposed surface of the low melting point resin is covered as densely as possible (emphasis added). Example 1 clearly shows application of the water absorbing resin to external surfaces of the low melting point resin.

The teachings summarized in the preceding paragraph clearly show that Tanaka et al. intended to, and did, produce a structure that is not an extrudable blend of a thermoplastic resin and a superabsorbent polymer. The foregoing teachings of Tanaka et al. neither guide nor suggest that a skilled artisan even try to make an extrudable blend. In fact, the requirement for application of a particulate water-absorbent resin to the exposed surface of the low melting point resin clearly guides a skilled artisan directly away from trying to form an extrudable blend of the low melting point resin and the particulate water-absorbent resin.

Tanaka et al. do, however, comment upon prior attempts to incorporate and knead powdery polymeric water absorber into a polyolefin in the background art section at column 1, lines 45-60. Tanaka et al. disparage such attempts by noting that exposure to heat degrades water absorbing capacity and burial of the water-absorbing resin in the polyolefin resin precludes one from attaining a satisfactory water-absorbing effect.

The background art summarized in the immediately preceding paragraph provides only a generic teaching to melt compounding of a powdery polymeric water absorber and a polyolefin resin. Nothing in this teaching guides a skilled artisan to select a thermoplastic resin that reacts either ionically or covalently with a superabsorbent polymer or to select a superabsorbent polymer that reacts either ionically or covalently with the thermoplastic resin. Applicant invites the Office to review the data presented in the above application, particularly that presented in Tables 1 and 2. The Office will note that a number of polyolefin resins do not yield an extrudable composition whereas certain thermoplastic polymer resins, those that have moieties suitable for reacting with the superabsorbent polymer, do. The Office will also note, particularly at page 11, lines 26-30, an explanation of what Applicant means by "not extrudable" in Table 2. This explanation also applies to Table 1 based upon Application, page 11, lines 18-21.

Applicant respectfully suggests that nothing in Tanaka et al., including the background art section discussed above, guides a skilled artisan to even try finding a certain class of thermoplastic polymers that yield an extrudable composition in general or to select thermoplastic polymers that react either ionically or covalently with superabsorbent polymers in particular. As such, Tanaka et al. fail to either anticipate the claimed invention or render the claimed invention prima facie obvious. Applicant therefore respectfully asks the Office to withdraw the rejection of 1-7, 10 and 17 over Tanaka et al.

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The addition of new Claim 32 does not add any new fees due to withdrawal of 12-16 and 18-31. If Applicant errs in this statement, Applicant authorizes the Office to assess the appropriate fee to Deposit Account Number 04-1512. If the Office assesses such a charge, Applicant asks the Office to advise the undersigned as to the amount of, and basis for, such charge.

Applicant respectfully requests withdrawal of all rejections and allowance of Claims 1-11, 16 and new Claim 32 at an early date.

Respectfully submitted,

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